

deleting this language from claims 13 and 24, Applicant does not concede the propriety of the rejection. Withdrawal of the rejection is requested.

Claims 11-13 and 22-24 are rejected under 35 USC § 112, second paragraph, as being indefinite. Applicant respectfully traverses this rejection. In order to expedite prosecution, claims 11, 12, 22 and 23 have been amended to delete the word "type". However, Applicant does not concede that the use of the word "type" renders the claims indefinite. Withdrawal of the rejection is requested.

In addition, claim 9 is amended to remove a reference numeral therefrom.

Applicant notes that each of the foregoing amendments and remarks were made to overcome Section 112 and/or other formal requirements. Accordingly, such amendments and remarks were not made to overcome rejections based on art and so should not be construed in a limiting manner.

The Examiner has rejected claims 1, 4, 7, 9, 13-15, 18 and 24-26 under 35 USC § 102(b) as being anticipated by Olsen (US 5,916,399). Applicant respectfully traverses this rejection.

In addition, the Examiner has rejected claims 1, 4, 7-10, 13-15, 18, 19 and 24-26 under 35 USC § 103(a) as being unpatentable over Olsen (US 5,916,399). Applicant respectfully traverses this rejection.

Claims 1 and 15 are amended to recite that elastomer polymer layer has a plasticizing point that is above the application temperature of the transfer. This amendment is supported by the original disclosure, for instance at page 13, lines 4-7.

Olsen does not anticipate nor render obvious the claimed invention. Olsen is characterized by the Examiner as disclosing a base sheet, at least one color layer, a transparent polyurethane elastomer extender layer on the color layer, and a hot-melt powder over the extender layer. Applicant notes that the rejections do not identify the allegedly corresponding elements of Olsen by using reference numerals. For purposes of this response, Applicant will assume that the base sheet is element 16 of Olsen, the color layer is referenced by numeral 22, the elastomer layer is referenced by numeral 26, and the hot-melt powder is referenced by numeral 28.

The Examiner alleges that the elastomer layer 26 is made of the same material as the claimed elastomer layer and as a result inherently has a high plasticizing point. This is simply

not true, and is inconsistent with the disclosure of Olsen. The elastomer layer 26 of Olsen is disclosed as a polyurethane. While, Applicant's description mentions polyurethane as one possible choice for use in the elastomer polymer layer, if polyurethane is the material used to form the claimed elastomer polymer layer, it must also have a high plasticizing point as is required of the claimed elastomer polymer layer. A person having ordinary skill in the art will appreciate that polymers, including polyurethanes, can be made to many different specifications. Whether a polyurethane has a low or high plasticizing point, or does not plasticize at all, depends, among other factors, on the degree of reaction determining its residual unsaturation and, thus, its cross-linking capacity, as well as on the added amount of cross-linking agent.

Olsen simply does not disclose that the polyurethane mentioned therein has a high plasticizing point that is above the application temperature of the transfer, as is recited in claims 1 and 15.

In fact, it appears that the polyurethane of Olsen, when the rest of the disclosure is taken into account, does not have a plasticizing point at all. The polyurethane-based ink used in the examples of Olsen is of a strongly hardening type which becomes stiff and glassy and will not melt again even at high temperatures. This interpretation is supported by the teachings of the Olsen patent, in which, in order to secure the glass microspheres 12 in the transfer, a strongly hardening polymer must be used. This is generally not an advantage when the transfer is to be applied to flexible textiles, but is accepted in order to obtain retroreflective images. Even then, if one were to print a color picture on top of the microspheres by means of a digital color printer and cover the picture by a two-component extender, it would be difficult to print the picture on the glass microspheres and the toners would not bind to, but would melt into the polymer layer during drying, leaving a blurred image. Thus, Olsen's layer 26 does not inherently have a high plasticizing point; it has no plasticizing point.

Moreover, Olsen does not disclose using a digitally controlled color printer to print the color pattern. The Examiner asserts that recitation of the printer has not been given patentable weight. Applicant respectfully submits that all claim limitations must be considered in determining the patentability of a claim. Moreover, for method claims, the recitation of the use of an apparatus to practice the method is a positive limitation of the method and must be considered as part of the method. For claim 15, recitation of the digitally controlled color printer

to print the pattern is a limitation on the practice of the claimed method. Applicant is not claiming the structure of the printer. Instead, claim 15 recites a specific apparatus, i.e. the digitally controlled color printer, that is used to practice the claimed method. Using the digitally controlled color printer to print the pattern is a step in the claimed method and must be considered just like any other step in the method.

According to Applicant's invention, a colored image is printed on a carrier sheet by means of a digital color printer which currently use thermoplastic toners. A transparent or white-pigmented elastomer layer of a polymer having a high plasticizing point is printed configuratively on top of the image. The use of a color printer is a decisive difference from the prior art since, to the best of Applicant's knowledge, nobody has before been able to use a digital color printer for preparing a useful transfer sheet.

Surprisingly, Applicant has found that by using an elastomer layer of a polymer having a high plasticizing point, it is possible to create conditions whereby the toners are bound to the elastomer layer while achieving at the same time a high plasticizing point and a high elasticity. The chemical reactions underlying Applicant's invention are not yet well understood. One possible contributing factor in binding of the color toners may be that the toners, which are based on thermoplastic polyol resins, react with isocyanate contained in the elastomer layer as disclosed in the specification at page 4, second paragraph. However, Applicant does not wish to be bound this theory.

New claims 65-68 further distinguish over Olsen which does not teach a plasticizing point is above 165 °C, nor an elastomer polymer layer that comprises a linear fully reacted polyurethane on the basis of polyester.

For at least the reasons discussed above, Olsen does not anticipate or render obvious, the claims. Withdrawal of the rejections is requested.

Applicant notes that WO 92/07990 alleges the use of a color copier for applying a color coating to a transfer. This reference has been discussed in Applicant's June 2, 2000 and April 13, 2000 responses. This reference is deficient for the reasons noted in the previous responses, the reasoning not being repeated herein for sake of brevity.

The indication that claims 5, 6, 20 and 21 contain allowable subject matter is gratefully noted. For at least the reasons discussed above, the remaining claims are believed to be allowable as well.

Conclusion


Applicant believes that the application is in condition for allowance. Favorable consideration is respectfully requested. If any further questions arise, the Examiner is welcome to contact Applicants' representative at the number listed below.

Respectfully submitted,

MERCHANT & GOULD P.C.
P.O. Box 2903
Minneapolis, MN 55402-0903
612/332-5300

Date: _____

1/19/2002



John J. Gresens
Reg. No. 33,112
JJG/JAL